

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Hiroyuki MITANI, et al.

SERIAL NO: New Application

GAU:

FILED: Herewith

EXAMINER:

FOR: SUPPORTING BASE FOR GAS SEPARATING MEMBRANE, PRODUCING METHOD THEREOF AND GAS SEPARATING FILTER

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

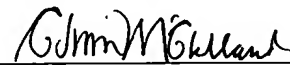
- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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DOCKET NO.: 250127US0/dct

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IN RE APPLICATION OF: Hiroyuki MITANI, et al.

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METHOD THEREOF AND GAS SEPARATING FILTER

STATEMENT OF RELEVANCY

Reference AO on Form PTO-1449:

Explained in the specification.

PURPOSE: To maintain the transmission quantity of H₂ gas and carry out high concentration separation by preparing a layer of inorganic material having continuous micro pores of average micro pore diameter smaller than average micro pore diameter of porous substrate and forming the extreme outer layer containing Pd.

CONSTITUTION: The ceramic substrate of around 1mm thickness having average 0.5-30 μ m; micro pore diameter is used. At least on one face of the said substrate, a porous thin film consisting of such inorganic materials as ceramic, glass, carbon, etc. is formed. In the said porous thin film, a fixed quantity of Pd is dipped and carried by means of impregnation, adsorption, ion exchange and other processes. The thin film can be formed with Pd or Pd alloy. The average micro pore diameter should be 10-100Å; of number and the thickness of membrane is 10Å-100 μ m. Pd in the thin film is preferably more than 0.1mol% in atomic conversion.

Reference AP on Form PTO-1449:

Explained in the specification.

PROBLEM TO BE SOLVED: To provide a porous supporting base excellent in layability and durability as a hydrogen-permselective facility and to provide a high-separation-performance hydrogen-permselective member using the base.

SOLUTION: There are disclosed a supporting base for a hydrogen-permselective membrane which is a base for supporting a hydrogen-permselective membrane and comprises a multilayer-structure metallic porous sintered body, wherein the relative

density of the sintered body on the side of the hydrogen-permselective surface is at least 60% and has a mean particle diameter of at least 10 μm , whereas the sintered body on the side of the crude gas contact surface has a mean particle diameter of at most 8 μm , a maximum particle diameter of at most 45 μm , and an areal opening coverage of at least 30%, and a hydrogen-permselective member composed of the base and hydrogen-permselective membrane formed thereon.

Reference AQ on Form PTO-1449:

Explained in the specification.

Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

250127US0

SERIAL NO.

New Application

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Hiroyuki MITANI, et al.

FILING DATE

Herewith

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	62-121616	06/02/87	Japan		X
	AP	2002-219341	08/06/02	Japan		X
	AO	59-224309	12/17/84	Japan		X
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	<input type="checkbox"/> Additional References sheet(s) attached

Examiner

Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.